Understanding Medical Surge and Its Effects on Standards of Care

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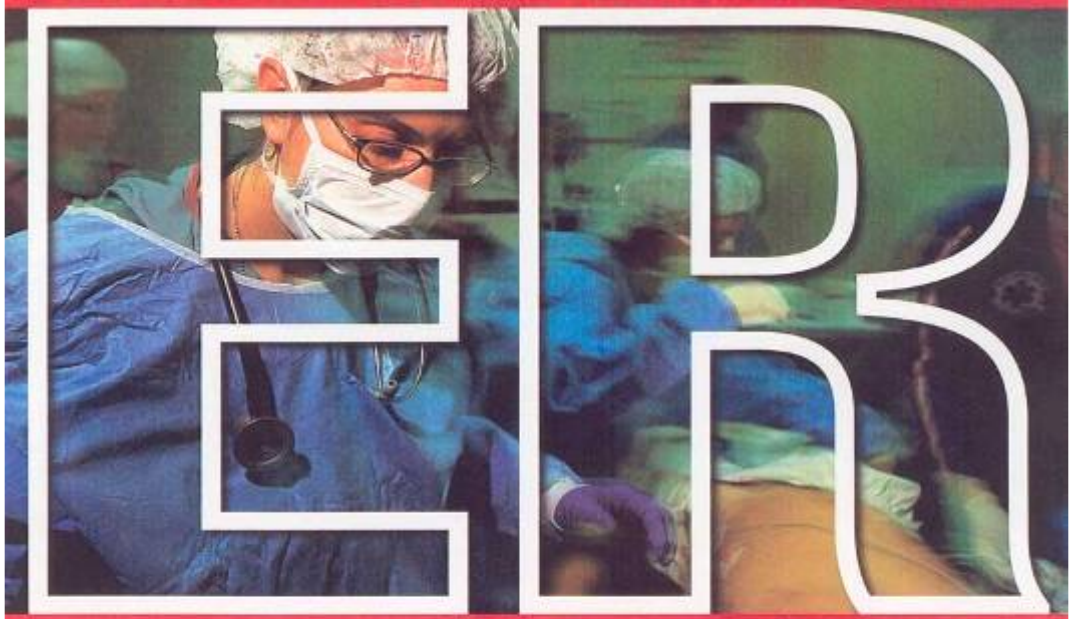
CRISIS IN THE ER



Turnaways and huge delays are a surefire recipe for disaster. What you can do

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‘Supply and Demand’ Definition of Medical Surge Capacity

- Surge Capacity: the additional capacity to deal with sudden, unexpected upturns in demand
- Ability to respond to an increased demand or a decreased supply, or both an increase in demand with a concurrent decrease (insufficiency) in supply
- The “supply side” (“Just in time”) capability of the health care industry -- infrastructure, human resources, materiel -- is not conducive to generating surge capacity.

Evidence of Surge in Past Events

- Tokyo 1995: Sarin Gas subway release
  - 984 patients hospitalized;
  - 4023 evaluated in ED and released

    1:5 ratio
- NYC 2001: World Trade Center collapse
  - 139 patients hospitalized (5 hospitals);
  - 790 patients evaluated in first 48 hours

    1:15 ratio
- Northern VA (Inova Fairfax) 2001: Anthrax mailings
  - 2 confirmed inhalation anthrax cases;
  - 1,127 patients screened for ‘potential exposure’

    1:500 ratio

PanFlu Impact on US Hospitals (based on CDC FluSurge Modeling)

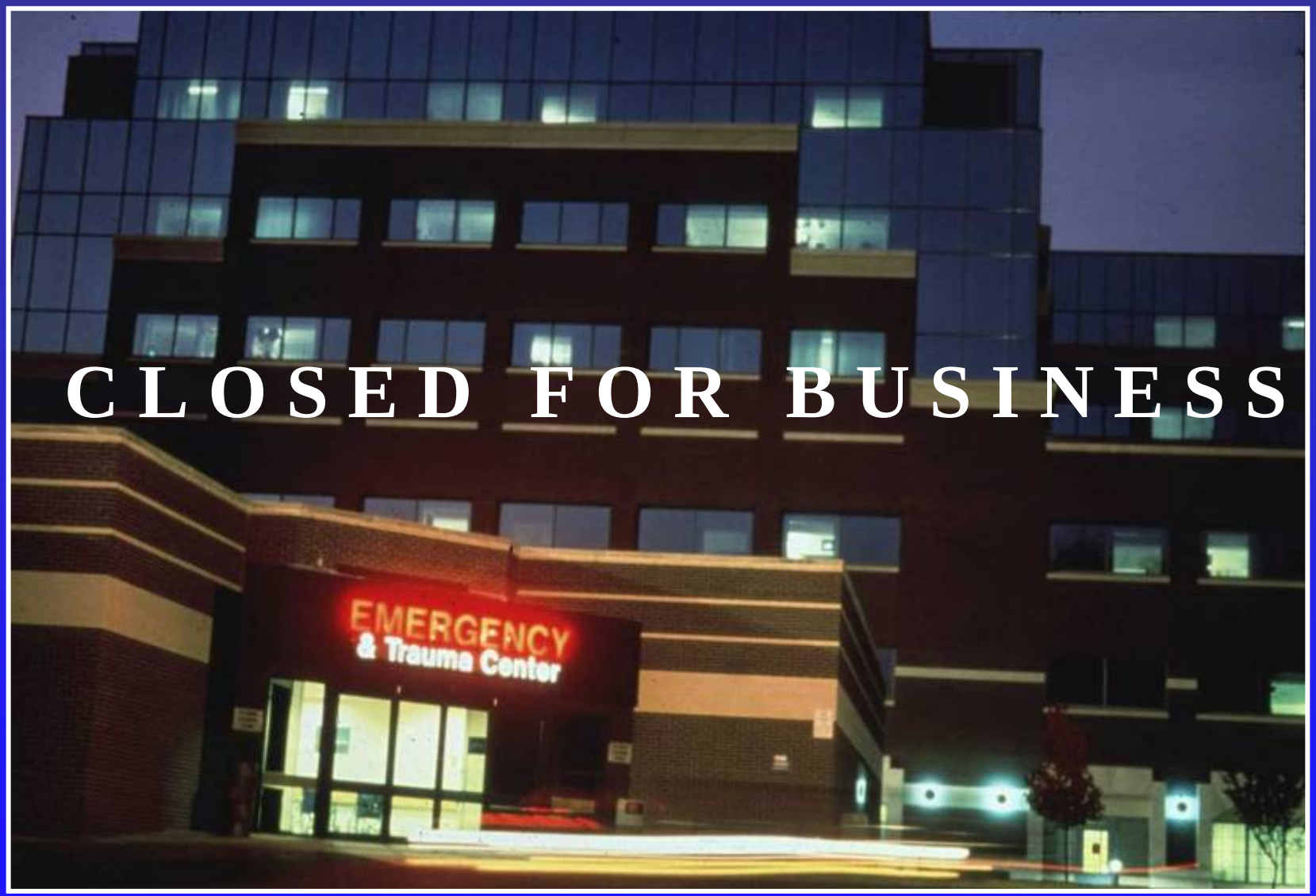
- 191% of non-ICU beds would be required for patient care
- 461% of ICU beds would be required
- 198% of ventilators would be required

This assumes a 25% attack rate

Evaluating the Problem in the Context of PanFlu Preparedness:

"We Have no Real Surge Capacity to Speak of"

• DC METRO POPULATION	5.1 million
• 10% population affected by pandemic flu	510,000
• 20% of those affected require hospitalization	102,000
• NCR Bed Census	appx 70-80% full
• Total NCR hospital beds (operational)	7,830 beds
• HRSA surge capacity target	2,500 patients


CLOSED FOR BUSINESS
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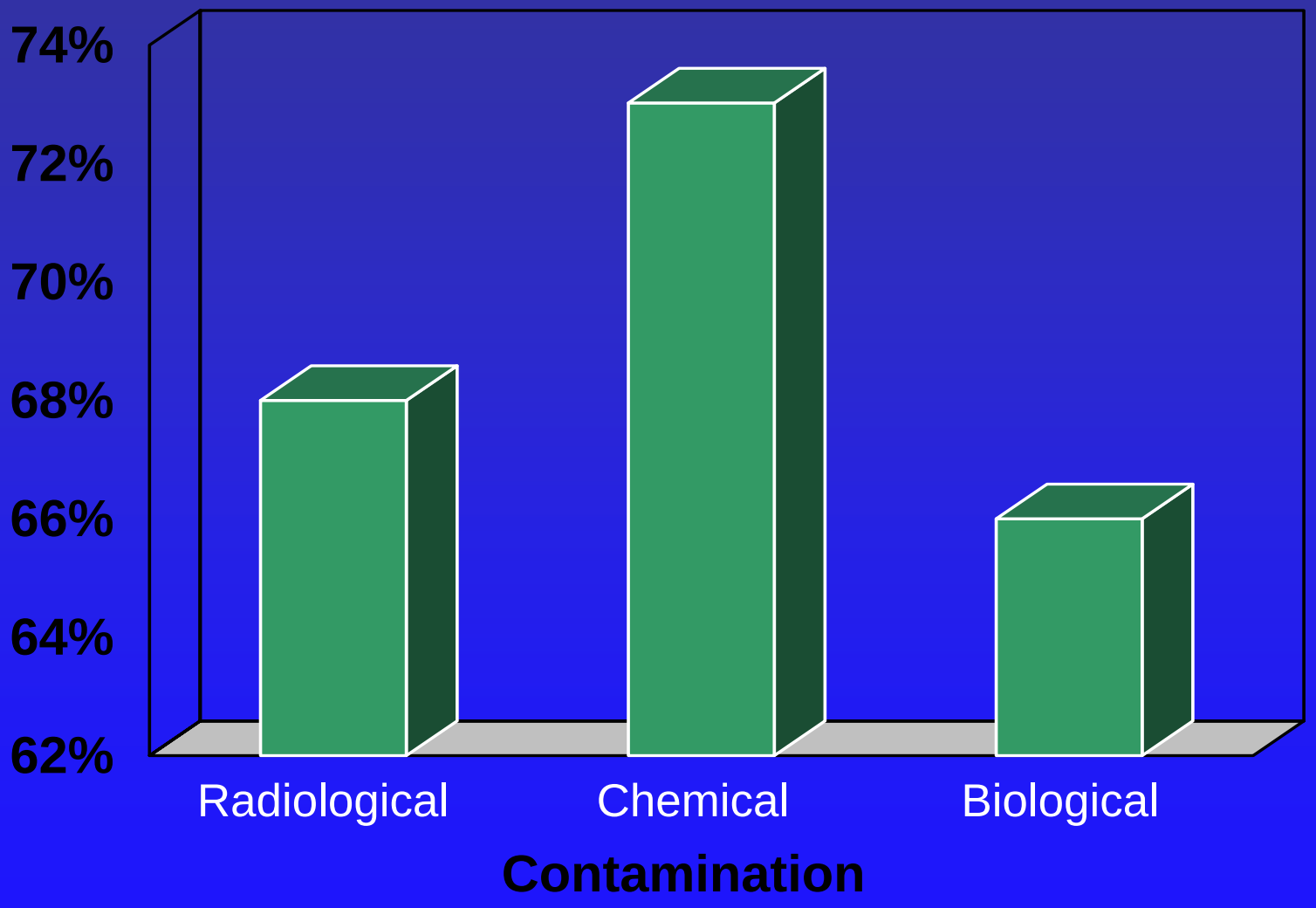
& Trauma Center

Inova Health System Workforce Attitudinal Survey
December 2004 (n= 396)



Q: If patients were ___ly contaminated, would you come to work?

Medical Surge Planning Assumptions

- 1/4 to 1/3 of workforce may be absent
- Surge demand occurs in context of continued delivery of basic health care services
- Federal/state resources unavailable up to 72 hours
- Forward movement of patients impossible

Hick JL, Hanfling D, Burstein JL, et al., *Healthcare Facility and Community Strategies for Patient Care Surge Capacity*, Annals of Emergency Medicine. September 2004.

Establish Benchmarks for Healthcare Facility Surge Capacity Response

- 10% of staffed beds from expedited discharge
- 10% of staffed beds from cancellation of elective surgeries and other elective admissions
- 10% of licensed beds available by identification of available “flat-space” treatment area (either licensed beds not currently staffed or other unlicensed treatment areas within the hospital)

Hick JL, Hanfling D, Burstein JL, et al., *Healthcare Facility and Community Strategies for Patient Care Surge Capacity*, Annals of Emergency Medicine. September 2004.

Medical Surge Planning Strategies And Its Effects on Standards of Care

- Identification and development of alternate care sites [surge hospitals]
- Recognition that ‘standards of care’ will change
  - “degradation of care” (JCAHO) versus “degradation of services” and “degradation of methods” (Barbera)
    - Identify and select priority activities that should be preserved; allow less critical services to degrade as system capacity is degraded
  - UPMC Working Group on critical care surge
  - Triage of ventilator-dependent patients (Hick, O’Laughlin)
  - Protocol-driven care; “assembly line” medicine

AHRQ “Altered Standards of Care in Mass Casualty Events

- Maximize lives saved
  - Degradation of care resulting in poor patient outcomes is the option of last resort
- Be prepared to allocate scarce resources
  - ‘engineered degradation’ must be conducted in the context of effective incident planning and response
- Recognize that standards will change; protocols for triage will need to be flexible

Vision of Successful PanFlu Medical Preparedness??

We must be able to provide medical care for victims of pandemic influenza while maintaining other essential medical services.

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